

all cases of simple cryptorchismus, hypospadias, defective development of the penis, hypertrophy of the clitoris, narrowness or occlusion of the vagina, and alteration of position of the ovaries. The author collects from the literature of the subject ten cases of supposed true unilateral hermaphroditism, and seven of supposed bilateral; but he considers that in these cases the evidence of true hermaphroditism has not been complete, for in some of them the description has been imperfect, and in some there was some defect in the structure of the glands—for instance, the Graafian vesicles were wanting in the ovary in some cases, and in one there was cancer of the ovary. The author, however, gives the details of a case which he has examined, in which there was undoubted true bilateral hermaphroditism, the ovaries and testicles on both sides being present, and quite recognizable by their microscopic characters, Graafian vesicles being found in the ovaries and seminal tubules in the testicles.—*Glasgow Med. Journ.*, May, 1871, from *Reichert & Du Bois-Reymond's Archiv*, No. V., 1870.

3. *Absence of Urinary and Generative Apparatus in a Fœtus*.—Dr. MATTHEWS DUNCAN read before the Medico-Chirurgical Society of Edinburgh a note of this rare malformation which occurred in an eight months' fœtus otherwise healthy, which survived its birth about forty-eight hours. In it there was entire absence of the urinary and generative systems. There was not the slightest indication even of a perineal raphe, nor any external trace of organ except a tubercle of the size of a pea, which was found on examination to contain no structure except skin and fat. The rectum was full of meconium, and ended abruptly in the pelvis; not a trace of bladder or ureters existed. Small bodies, which were probably the suprarenal capsules, were found in the natural position; but these could not have been rudimentary kidneys, as there was no trace of pelves. There was no cystic degeneration. Two little bodies like peas containing a vestige of tubular structure were found in the inguinal canals. The chest-organs were healthy.—Dr. Duncan remarked on the extreme interest of this case, not only from its rarity, but also in a physiological point of view, in its bearing on the question of the excretion of urine during fœtal life. It contrasted with the rare case of hydronephrosis which last year he had brought before the Society.—*Brit. Med. Journal*, March 4, 1871.

MATERIA MEDICA, GENERAL THERAPEUTICS, AND PHARMACY.

4. *The Present State of our Knowledge respecting the Action of Mercury on the Liver*.—Dr. THOMAS R. FRASER, in a very interesting paper in the *Edinburgh Medical Journal* for April, 1871, discusses this subject. When we consider, he says, that the belief in the existence of the cholagogue action of mercury is founded, in a great measure, on explanations of its effects in pathological conditions regarding which no exact knowledge exists, it is not surprising that the modern doctrines of the nature of the action are somewhat vague and even conflicting. These doctrines appear to be resolvable into the four following: 1. That mercury simply increases the flow of bile into the intestines; 2. That it causes an increased formation of bile by removing abnormal conditions that interfere with the secreting function of the liver; 3. That it causes an increased formation of bile by an indirect action on the liver; 4. That it causes an increased formation of bile by a direct and primary action on the liver. It is of importance to bear in mind that, as has been stated, the evidence on which these doctrines are founded is mainly derived from observations in disease. This evidence has failed to satisfy many physicians, who maintain, what may for convenience be termed a fifth doctrine, that mercury has no cholagogue action whatever.

Each of these doctrines Dr. Fraser examines in detail, and arrives at the following conclusion as regards them in the order in which they have been mentioned:—

I. Murray's experiments have shown that calomel increases the vascularity of the gastro-intestinal mucous membrane;¹ it is not unlikely that it exerts the same influence as chyme on the flow of bile; and we may thus arrive at some conception of the mechanism by which mercury may sometimes cause an increased discharge of bile, apart from its action on pathological conditions, and irrespective of any direct or indirect action on the secreting function of the liver.

II. Clinical experience gives some support to the doctrine that mercury may cause an increased formation of bile by removing abnormal conditions which interfere with the secreting function of the liver.

III. The doctrine that mercury causes an increased formation of bile by an indirect action on the liver is only a conjecture, plausible, no doubt, but unsupported by evidence sufficient to render it more than a theoretical explanation.

IV. It is quite legitimate to maintain this as a *possible or probable explanation of several of the observed facts*, until sufficient evidence is brought forward to disprove it. We shall presently consider the evidence that has been advanced for this purpose.

Reviewing the various points to which attention has been drawn, Dr. Fraser is led to entertain the opinion that mercury undoubtedly possesses a cholagogue action, but thinks that we are entitled to maintain only that the cholagogue action of mercury consists in an increase of the flow of bile into the duodenum. By maintaining this doctrine, the manner in which this increased flow is effected is left an open question. The doctrine itself is essentially founded on the following argument:—

(a.) Certain characters of the alvine dejections imply an absence or diminution of bile, and these characters are present in various diseases.

(b.) In many of these diseases, mercury restores the alvine dejections to their normal condition; or produces in them, as well as in normal dejections, certain characteristic appearances.

(c.) The characteristic appearances caused in the alvine dejections by the administration of mercury are due to the presence of bile constituents.

V. As the doctrine that mercury has no cholagogue action whatever is mainly founded on the researches of Dr. Scott,² and the "Report of the Edinburgh Committee on the Action of Mercury on the Liver," by Dr. Bennett,³ it may confidently be asserted that it is not supported by sufficient evidence. In order to prove the existence of this action, it is sufficient to establish that *the quantity of bile discharged into the intestines may be increased by mercury*; but the experiments of Scott and the Edinburgh Committee were performed in such a manner that *an action on the secreting activity of the liver-cells—not on the flow of bile into the intestines—could alone be examined*. Therefore, it can never be shown by these experiments that mercury does not act as a cholagogue.

The examination we have now concluded of the various doctrines respecting the action of mercury on the liver, has shown us that this substance undoubtedly exerts a cholagogue action, in so far that, by its influence, the flow of bile into the intestinal canal may be increased. It has further shown that there exists some evidence in favour of the doctrines which imply that mercury may increase the formation of bile by a direct and indirect action on the liver, and also by an action in virtue of which various abnormal conditions that interfere with the secreting functions of this organ are removed.

5. *The Action of Mercury in Children.*—Dr. WM. STEPHENSON read before the Medico-Chirurgical Society of Edinburgh (*Edin. Med. Journal*, May, 1871) a paper on this subject, and drew the following conclusions:—

1. That mercury may be employed to influence the constitution with perfect safety, and without any injurious effect upon the general health.

2. That, to obtain its therapeutic action, it is not necessary to produce its

¹ Transactions of the Medical and Physical Society of Bombay, 1841, pp. 3–26.

² Beale's Archives of Med., vol. i. p. 209.

³ British Med. Journ., July 25, 1868, p. 78, and May 8, 1869, p. 411; also Am. Journ. of Med. Sci., July, 1869, p. 231.